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22SCS/SCN14

First Semester M.Tech. Degree Examination, Jan./Feb. 2023

Internet of Things & Applications

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1				M	L	C
Q.1	a.	Explain with appropriate figures H ₂ H, H ₂ M and M ₂ M environment.	10	L2	CO1	
	b.	Explain with block diagram communication supported in MIPv ₆ through HA.	10	L2	CO1	
OR						
Q.2	a.	Explain with block diagram direction of standardization according to IOT definition.	10	L2	CO1	
	b.	Explain with block diagram advanced metering infrastructure.	10	L2	CO2	
Module – 2						
Q.3	a.	Explain in detail properties and requirements of M ₂ M applications.	7	L2	CO2	
	b.	Explain in detail with respect to IOT applications : (i) Device intelligence. (ii) Communication capabilities (iii) Mobility support (iv) Device power.	8	L2	CO2	
	c.	Explain with block diagram RFID reader operation.	5	L2	CO2	
OR						
Q.4	a.	Explain in detail : (i) Abstract layering of COAP. (ii) Overall protocol stack in COAP's environment.	10	L2	CO2	
	b.	Explain with block diagram : (i) M ₂ M in 3GPP – Service model (ii) M ₂ M in 3GPP – Architecture.	10	L2	CO2	
Module – 3						
Q.5	a.	Compare WBAN, WSN and Cellular wireless networks.	6	L3	CO2	
	b.	Explain with block diagram, Zigbee protocol stack (details).	7	L2	CO2	
	c.	Explain with block diagrams different frame formats used in IEEE 802.15.4.	7	L2	CO2	
OR						

Q.6	a.	Explain with appropriate figures IPV6 tunneling : unidirectional ; bidirectional.	10	L2	CO2
	b.	Explain with block diagram IpSec Network environment.	10	L2	CO2
Module – 4					
Q.7	a.	Explain in detail Home automation IOT system.	10	L2	CO3
	b.	Explain with block diagrams Home intrusion detection IOT system.	10	L2	CO3
OR					
Q.8	a.	Explain with block diagram Smart Parking IOT system.	10	L2	CO3
	b.	Explain with block diagrams weather monitoring IOT system.	10	L2	CO3
Module – 5					
Q.9	a.	Explain with block diagram, components of a Hadoop cluster and Hadoop Map Reduce job execution.	10	L2	CO4
	b.	Explain with block diagram Hadoop Map Reduce Next Generation (YARN) job execution.	10	L2	CO4
OR					
Q.10	a.	Explain in detail Oozie workflow for IOT data analysis.	10	L2	CO4
	b.	Explain with block diagram components of a storm cluster and also explain example of a storm topology.	10	L2	CO4
